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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/944,344	09/04/2001	Shiroshi Matsuki	50352-02	9915

7550 06/02/2004

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EXAMINER

WONG, EDNA

ART UNIT

PAPER NUMBER

1753

DATE MAILED 06/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.	Applicant(s)
09/944,344	MATSUKI ET AL
Examiner	Art Unit
Edna Wong	1753

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 May 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte* Quayle, 1835 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) 4-13 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☒ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date. _____ | 6) <input type="checkbox"/> Other: _____ |

This is in response to the Amendment dated May 12, 2004. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Response to Arguments

Election/Restrictions

This application contains claims **4-13** drawn to an invention nonelected with traverse in the Response to Restriction Requirement dated November 10, 2003. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

Specification

- I. The abstract of the disclosure has been objected to.

The objection to the abstract has been withdrawn in view of Applicants' amendment.

- II. The disclosure has been objected to because of minor informalities.

The objection to the disclosure has withdrawn in view of Applicants' amendment.

Claim Rejections - 35 USC § 112

Claim 3 has been rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The rejection of claim 3 under 35 U.S.C. 112, second paragraph, has been withdrawn in view of Applicants' amendment.

Claim Rejections - 35 USC § 102

Claim 1 has been rejected under 35 U.S.C. 102(b) as being anticipated by **Bartley** (US Patent No. 4,677,234).

The rejection of claim 1 under 35 U.S.C. 102(b) as being anticipated by **Bartley** has been withdrawn in view of Applicants' amendment.

Claim Rejections - 35 USC § 103

I. Claim 3 has been rejected under 35 U.S.C. 103(a) as being unpatentable over **Bartley** (US Patent No. 4,677,234) as applied to claim 1 above, and further in view of **Gottfried et al.** (US Patent No. 4,659,555).

The rejection of claim 3 under 35 U.S.C. 103(a) as being unpatentable over **Bartley** as applied to claim 1 above, and further in view of **Gottfried et al.** has been withdrawn in view of Applicants' amendment.

II. Claims **2 and 3** have been rejected under 35 U.S.C. 103(a) as being unpatentable over **Bartley** (US Patent No. 4,677,234) in combination with **Gottfried et al.** (US Patent No. 4,659,555).

The rejection of claims 2 and 3 under 35 U.S.C. 103(a) as being unpatentable over Bartley in combination with Gottfried et al. has been withdrawn in view of Applicants' amendment.

Response to Amendment

Claim Rejections - 35 USC § 103

I. Claim **1** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Bartley** (US Patent No. 4,677,234).

Bartley teaches a method for manufacturing a copper electroplating material comprising the step of:

heating basic copper carbonate powder (col. 6, lines 59-62) to a temperature of from about 200°C to about 500°C (col. 7, lines 40-46) in an atmosphere which is not rendered reductive to carry out thermal decomposition of the basic copper carbonate (= calcination involves high temperature heating under oxidizing conditions so that the carbonate is decomposed and the volatile material is expelled) [col. 7, lines 33-40], to thereby produce easily dissolved copper oxide powder constituting the copper electroplating material (= conversion of carbon carbonate to copper oxide) [col. 7, lines 43-44].

Bartley does not teach wherein the heating temperature is from above 500°C to 800°C.

However, the invention as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made because Bartley teaches a temperature of from about 200°C to about 500°C (col. 7, lines 40-46). A temperature of about 500°C includes 501°C, 502°C and 503°C. These temperatures are above 500°C. And thus, Bartley's disclosure suggests to the ordinary artisan that temperatures above 500°C are suitable in his method, and thus, would have made obvious to the ordinary artisan the present claim limitation.

II. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Bartley** (US Patent No. 4,677,234) as applied to claim 1 above, and further in view of **Gottfried et al.** (US Patent No. 4,659,555).

Bartley is as applied above and incorporated herein.

Bartley does not teach wherein the basic copper carbonate is obtained by mixing an aqueous solution of a copper salt selected from the group consisting of copper chloride, copper sulfate and copper nitrate and an aqueous solution of a carbonate of a material selected from the group consisting of alkaline metal, alkaline earth metal and ammonia (NH₄) with each other, reacting both aqueous solutions with each other while

heating them, to thereby deposit a reaction product, and separating the reaction product by filtration.

However, Gottfried teaches a process for preparing basic copper carbonated comprising the steps of:

(a) mixing an aqueous solution of a copper salt selected from the group consisting of copper chloride, copper sulfate and copper nitrate (= a waste solution from copper etching processes of CuCl_2) and an aqueous solution of carbonate of a material selected from alkaline metal, alkaline earth metal and ammonia (NH_4) (= sodium carbonate solution) with each other; and

(b) reacting both aqueous solutions with each other while heating them (= a temperature of 60°C), to thereby deposit a reaction product (= basic copper carbonate as a light green precipitated sludge), and separating the reaction product by filtration (filtered, washed and dried) [col. 2, line 56 to col. 3, line 6].

Thus, the invention as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made because one skilled in the art would have been motivated to have modified the method of Bartley with wherein the basic copper carbonate is obtained by mixing an aqueous solution of a copper salt selected from the group consisting of copper chloride, copper sulfate and copper nitrate and an aqueous solution of carbonate of a material selected from alkaline metal, alkaline earth

metal and ammonia (NH_3) with each other, reacting both aqueous solutions with each other while heating them, to thereby deposit a reaction product, and separating the reaction product by filtration because Bartley is silent as to how the copper carbonate is obtained. Thus, it is well within the skill of the artisan to obtain the copper carbonate by the process disclosed by Gottfried (col. 2, line 56 to col. 3, line 6) because the basic copper carbonate so obtained is particularly suitable as a feed additive and for the preparation of catalysts as taught by Gottfried (col. 2, lines 49-51).

III. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Bartley** (US Patent No. 4,677,234).

Bartley is as applied for reasons as discussed in I. above and incorporated herein.

Bartley does not teach washing the easily dissolved copper oxide powder with water to provide the copper electroplating material.

However, the invention as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made because one skilled in the art would have been motivated to have modified the method of Bartley by washing the easily dissolved copper oxide powder with water to provide the copper electroplating material because washing is well within the skill of the artisan to remove contaminants.

on a reaction product.

Furthermore, the reason or motivation to modify the reference may often suggest what the inventor has done, but for a different purpose or to solve a different problem. It is not necessary that the prior art suggest the combination to achieve the same advantage or result discovered by the Applicants. *In re Linter* 458 F 2d 1013, 173 USPQ 560 (CCPA 1972); *In re Dillon* 919 F 2d 688, 16 USPQ 2d 1897 (Fed. Cir. 1990), cert. denied, 500 USPQ 904 (1991); *In re Linter* 458 F 2d 1013, 173 USPQ 560 (CCPA 1972); *In re Dillon* 919 F 2d 688, 16 USPQ 2d 1897 (Fed. Cir. 1990), cert. denied, 500 USPQ 904 (1991) and MPEP § 2144.

IV. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Bartley** (US Patent No. 4,677,234) as applied to claim 2 above, and further in view of **Gottfried et al.** (US Patent No. 4,659,555).

Bartley is as applied for reasons as discussed in III. above and incorporated herein. Gottfried et al. is as applied for reasons discussed in II. above and incorporated herein.

RE: REMARKS

Applicants state that Bartley does not describe the technique of heating copper carbonate powder to produce copper oxide powder as a product (copper electroplating material). In response, the reason or motivation to modify the reference may often

suggest what the inventor has done, but for a different purpose or to solve a different problem. It is not necessary that the prior art suggest the combination to achieve the same advantage or result discovered by the Applicants. *In re Linter* 458 F 2d 1013, 173 USPQ 560 (CCPA 1972); *In re Dillon* 919 F 2d 688, 16 USPQ 2d 1897 (Fed. Cir. 1990), cert. denied, 500 USPQ 904 (1991); *In re Linter* 458 F 2d 1013, 173 USPQ 560 (CCPA 1972); *In re Dillon* 919 F 2d 688, 16 USPQ 2d 1897 (Fed. Cir. 1990), cert. denied, 500 USPQ 904 (1991) and MPEP § 2144.

Applicants state that Bartley defines the upper limit of the heating temperature of copper carbonate as 500°C as a wide range, but describes in column 7, lines 43 to 46, that the upper limit is preferably 400°C or lower. This description does not motivate the idea of producing a copper plating material by heating copper carbonate to a temperature exceeding 500°C. In response, Bartley teaches a temperature of from about 200°C to about 500°C (col. 7, lines 40-46). The disclosure of reference must be considered for what it fairly teaches one of ordinary skill in the art, pertinence of non-preferred disclosure must be reviewed in such light. *In re Meinhardt* 157 USPQ 270; and MPEP § 2123.

Applicants state that the technique of Bartley is a series of techniques of oxidizing copper carbonate adhering to the carrier and producing metal copper by subsequent reduction. If this process is applied to the production of a copper plating

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material, the reduction causes copper oxide to contain metal copper, which will become undissolved residue at the time of copper plating and will cause problems such as variation in plating quality. In response, claim 1, line 3, and claim 2, line 3, recites "comprising the steps of". The word "comprising" is inclusive and fails to exclude unrecited steps. *In re Horvitz* 168 F 2d 522, 78 USPQ 79 (CCPA 1948). Thus, the present claims are open to the step of adhering the copper carbonate powder to a carrier.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

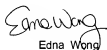
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Edna Wong whose telephone number is (571) 272-1349. The examiner can normally be reached on Mon-Fri 7:30 am to 5:00 pm, alt. Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam Nguyen can be reached on (571) 272-1342. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Edna Wong
Primary Examiner
Art Unit 1753

EW
May 28, 2004